



Starting Immune Tolerance Induction (to get rid of inhibitors): when and what dose

This document aims to help parents of patients with hemophilia to discuss options for immune tolerance induction with their clinicians to make treatment decisions.

What is Immune Tolerance Induction?

- Some people with hemophilia develop antibodies - called inhibitors - against clotting factor they received as treatment because their body wrongly interprets the treatment as dangerous. Immune Tolerance Induction (ITI) aims to get rid of inhibitors by teaching the body to accept the clotting factor.

Who should consider this treatment?

- Persons with hemophilia A or B who have developed an inhibitor to factor concentrate. *Having an inhibitor makes treating bleeding events difficult and may cause joint disease and other complications.*

What is usually involved?

- Regular injections (directly into the vein OR through a venous access device that is surgically put in place) of clotting factor, to help make the body used to factor products and stop making inhibitors.

What are the two decisions and their options?

When to start ITI?

- **Delayed:** Waiting to see if inhibitor level will decrease on its own
- **Early:** Immediately after detecting inhibitor, without waiting to see what will happen

What regimen of ITI?

see reverse side for details of each

- **High dose** with immunosuppressant
- **High dose**
- **Low dose**

Explore the benefits and risks of each option

Use X's to show how much each benefit and risk **matters** to you: XX = a lot; X = somewhat; 0 = not at all

Start Option	Benefits (reasons to choose this option)	how much it matters	Risks (reasons to avoid this option)	how much it matters
Delayed	When first detected, inhibitor level may be high. Waiting for level to decrease may improve chance of success by 25%: <i>People who started ITI with lower inhibitor level had success 4 months sooner than those who started with higher inhibitor level</i>		May experience higher rates of bleeding episodes and lower quality of life	
	Can delay getting a venous access device (port), if needed		Treatment with factor concentrate must stop; therefore, another way to treat bleeds is needed	
Regimen Option	Benefits (reasons to choose this option)	how much it matters	Risks (reasons to avoid this option)	how much it matters
High with Immunosuppressant	Shorter time until successful: <i>60 to 85% had successful ITI within 40 days of treatment</i>		Effects of immunosuppressant in very young children is unclear: <i>ITI was 55% less successful in children younger than 5 years compared to children 5 years and older</i>	
High	High dose ITI may be associated with success: <i>50 to 90% of people on high dose ITI had success</i>		Very demanding regimen, which may be difficult to follow	
Low	Low dose ITI may be as successful as higher dose ITI: <i>An almost equal number of people on either high or low dose ITI had success</i>		More frequent bleeding events until successful: <i>On average while on ITI, people on low dose ITI had more than double the number of bleeding events than those on high dose ITI</i>	
	Can be administered without a central venous access device		May take more time until successful: <i>People on low dose ITI took almost double the time to be successful compared to people on high dose ITI</i>	

What do you want to achieve for your child?

Rank these objectives from 1 to 4, where 1 = matters most.

- ___ To have highest chance of getting rid of the inhibitor as quickly as possible
- ___ To have a fully active life with less worry about receiving intensive treatment
- ___ To have normal life activities (e.g. daycare, school) with minimum limitations and minimum "medicalization"
- ___ To have highest chance for fewer bleeding events while on ITI

What are the *regimen options* for prophylaxis treatment?

- **High dose with immunosuppressants:** 1-4 vials of clotting factor given daily with immunosuppressants (medicines that slow down the activity of the immune system)
- **High dose:** 1-4 vials of clotting factor given daily
- **Low dose:** 1-2 vials of clotting factor given 2-3 times per week